Remarks

Reconsideration of the application is respectfully requested in view of the foregoing amendments and following remarks. Claims 116-121, 123-127, 129-134, 136-141, 143-148, 150-154 and 168-179 are pending in the application. No claims have been allowed. Claims 116, 123, 129, 136, 143, 150 and 168-179 are independent. Claim 132 has been amended.

Cited Art

The Office action ("Action") applies the following cited art: U.S. Patent No. 6,353,807 to Tsutsui et al. ("Tsutsui"); U.S. Patent No. 5,822,370 to Graupe ("Graupe); and Geiger et al., "Audio Coding Based on Integer Transforms," *AES Convention Paper 5471*, 111th AES Convention, New York, NY, September 21-24, 2001 ("Geiger").

Specification

Applicants have amended the title, as required by the Action.

Claim Rejection under 35 USC § 112

Claim 132 is rejected under the second paragraph of 35 U.S.C. § 112, as being indefinite. Applicants respectfully disagree that the "identity transform" language is indefinite. However, to expedite prosecution, applicants have amended claim 132 to remove the identity transform language. Applicants request that the § 112 rejection be withdrawn.

Claim Rejections under 35 USC § 103

I. Claims 129-131, 133-134, 143-148, 150-154, 170, 172-173, 176 and 178-179 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,353,807 to Tsutsui.

Tsutsui

As understood by Applicants, Tsutsui describes coding acoustic waveform signals, "The coding means for acoustic waveform signals is formed of transform means 1101 for performing spectrum transform by dividing an input audio signal into a plurality of bands, a signal-component coding means 1102 for normalizing and quantizing an input signal, and code-string

generating means 1103 for generating a code string from a signal 103 output from the signal-component coding means 1102." Tsutsui, col. 16, line 64 to col. 17, line 5, and Fig. 2. Tsutsui proceeds to describe transform processing, at col. 16 to col. 31, that can be performed "for monoaural spectral signals" or "on the individual channels to be used for multi-channel signals." Tsutsui, col. 31, lines 27-33. Next, Tsutsui describes a specific multi-channel transform, which is a sum-difference L/R transform, (L+R)/2 and (L-R)/2. Tsutsui, col. 31, line 34 to col. 32, line 67. Tsutsui then applies the sum-difference L/R transform, as described in cols. 33-42.

Claims 129, 170, and 176

Tsutsui does not teach or suggest "selecting a multi-channel transform from among plural available types of multi-channel transforms, wherein the plural available types include three or more pre-defined transforms" as recited by claims 129, 170, and 176. Tsutsui first describes transform processing performed on monoaural signals and on individual channels of a multi-channel signal. Tsutsui, col. 31, lines 27-33. Next, Tsutsui describes a single multi-channel transform, which is a sum-difference L/R transform, (L+R)/2 and (L-R)/2. Tsutsui, beginning at col. 31, line 34; see, for example, col. 32, lines 45-67 and col. 40, lines 22-27.

The section of Tsutsui cited in the Action at page 3 (col. 7, line 65 to col. 8, line 13) only describes "a plurality of code transform operations for transforming a first code string into a second code string." This section of Tsutsui describes transforms that occur within a channel, not a plurality of available types of multi-channel transforms.

Because Tsutsui only describes one type of multi-channel transform, Tsutsui does not teach or suggest "selecting a multi-channel transform from among plural available types of multi-channel transforms" as recited by claims 129, 170, and 176. Tsutsui is even further from teaching or suggesting "the plural available types include three or more pre-defined transforms." Therefore, claims 129, 170, and 176 should be in condition for allowance.

Claims 143, 150, 172, 173, 178, and 179

Each of claims 143, 172 and 178 recites, "selecting an inverse multi-channel transform from among plural available types of inverse multi-channel transforms, wherein the plural available types include three or more pre-defined transforms." Each of claims 150, 173 and 179 recites, "selecting an inverse multi-channel transform from among plural available types of

inverse multi-channel transforms, wherein the plural available types include plural pre-defined transforms and at least one custom transform." For at least the reasons discussed above with regard to claims 129, 170, and 176, Tsutsui also does not teach or suggest the "plural available types of inverse multi-channel transforms" language of claims 143, 150, 172, 173, 178, and 179, respectively. Tsutsui is even further from teaching or suggesting that "the plural available types include three or more pre-defined transforms," as recited in claims 143, 172 and 178, respectively, or teaching or suggesting that "the plural available types include plural pre-defined transforms and at least one custom transform," as recited in claims150, 173 and 179, respectively. Therefore, claims 143, 150, 172, 173, 178, and 179 should be in condition for allowance.

Claims 132 and 146

Dependent claim 132 depends on claim 129 and dependent claim 146 depends on claim 143. Therefore, for at least the reasons discussed above with regard to claims 129 and 143, respectively, claims 132 and 146 should be allowable.

Furthermore, claims 132 and 146 recite that "the pre-defined transforms include ... a Hadamard transform." Tsutsui does not teach or suggest this language, and neither does Graupe. Regarding claim 132, it appears that the Action does not address this language. The only rejection of claim 132 is the §112 rejection, which is addressed above. Therefore, claim 132 should be allowable. Regarding claim 146, the Action also does not address this language for claim 146. Action, page 5. Therefore, claim 146 should also be allowable.

Claims 130, 131, 133, 134, 144, 145, 147, 148, and 151-154

Claims 130, 131, 133, and 134 depend on claim 129. Thus, for at least the reasons set forth above with regard to claim 129, claims 130, 131, 133, and 134 should be in condition for allowance.

Claims 144, 145, 147, and 148 ultimately depend on claim 143. Thus, for at least the reasons set forth above with regard to claim 143, claims 144, 145, 147, and 148 should be in condition for allowance.

Claims 151-154 ultimately depend on claim 150. Thus, for at least the reasons set forth above with regard to claim 150, claims 151-154 should be in condition for allowance.

II. Claims 116-121, 123-127, 168-169 and 174-175 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsutsui in view of Graupe.

Graupe

As understood by Applicants, Graupe describes compression and decompression to "provide an economical way to transmit a signal, having a spectrum greater than 3.5 kHz bandwidth, over a telephone line." Graupe, col. 2, lines 52-58. Specifically, Graupe describes using a bandpass filter to determine the power present in each band, and to transform, using a discrete wavelet transform, information present in the upper bands and shift it to the lower bands. Graupe, Abstract.

Claims 116, 123, 168, 169, 174, and 175

Claims 116, 168, and 174 recite "selecting a multi-channel transform from among plural available types of multi-channel transforms." Claims 123, 169, and 175 recite "selecting an inverse multi-channel transform from among plural available types of inverse multi-channel transforms." For at least the reasons discussed above with regard to claims 129, 170, and 176, Tsutsui does not teach or suggest this language. Furthermore, as understood by Applicants, Graupe does not add sufficient disclosure to teach or suggest this language. Therefore, claims 116, 123, 168, 169, 174, and 175 should be in condition for allowance.

Claim 121

Dependent claim 121 depends on claim 116. Therefore, for at least the reasons discussed above with regard to claim 116, claim 121 should be allowable.

Furthermore, claim 121 recites "wherein the encoder selectively turns the selected transform on/off based at least in part upon *channel correlation measurements* at the plural frequency bands." (emphasis added). The Action acknowledges that Tsutsui does not teach or suggest this language, but states that Graupe does, citing Graupe at col. 5, line 60 to col. 6, line 8. Applicants respectfully disagree. Specifically, Graupe describes comparing energy present in different bands within a channel (e.g., bands which contain speech). Graupe does not describe

"channel correlation measurements" which occur between channels. Therefore, claim 121 should be allowable.

Claims 117-120, 124-127

Claims 117-120 depend on claim 116. Thus, for at least the reasons set forth above with regard to claim 116, claims 117-120 should be in condition for allowance.

Claims 124-127 depend on claim 123. Thus, for at least the reasons set forth above with regard to claim 123, claims 124-127 should be in condition for allowance.

III. Claims 136-141, 171 and 177 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsutsui in view of Geiger.

Claims 136, 171, and 177

Claims 136, 171, and 177 recite "selecting a multi-channel transform from among plural available types of multi-channel transforms, wherein the plural available types include plural pre-defined transforms and at least one custom transform." For at least the reasons discussed above with regard to claims 129, 170, and 176, Tsutsui does not teach or suggest "plural available types of multi-channel transforms ." Tsutsui is even further from teaching or suggesting that "the plural available types include plural pre-defined transforms and at least one custom transform." Furthermore, as understood by Applicants, Geiger does not add sufficient disclosure to teach or suggest this language. Therefore, claims 136, 171, and 177 should be in condition for allowance.

Claims 137-141

Claims 137-141 depend on claim 136. Thus, for at least the reasons set forth above with regard to claim 136, claims 137-141 should be in condition for allowance

Request for Interview

If any issues remain, the Examiner is formally requested to contact the undersigned attorney prior to issuance of the next Office action in order to arrange a telephonic interview. It is believed that a brief discussion of the merits of the present application may expedite prosecution. Applicants submit the foregoing formal Amendment so that the Examiner may fully evaluate Applicants' position, thereby enabling the interview to be more focused.

This request is being submitted under MPEP § 713.01, which indicates that an interview may be arranged in advance by a written request.

Conclusion

The claims should be allowable. Such action is respectfully requested.

Respectfully submitted,

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